



Investigating the Effect of Structure Complexity on Students' Recognition of the Subject Slot

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ABSTRACT

The subject slot is a main part of any English sentence (Martha & Robert, 2012). The recognition of the subject slot is therefore a crucial step in understanding and comprehending a sentence. This paper studies the effect of the internal structure of the subject slot on its recognition by students learning English as a foreign language (EFL). The students are given written tests containing sentences with different subject structures. Those structures vary from simple to compound-complex. The results support the main hypothesis of the study: the degree of the complexity of the structure affects the students' recognition of the subject slot of a sentence. The surprising finding of the study, however, is that a compound subject, whether simple or complex, is easier for the students to recognize than a non-compound complex subject structure. The findings of the study are intended to positively contribute to the process of teaching a language. Regarding the findings of this study, EFL instructors can draw their students' attention to the different structures of a sentence. The students need to know that some parts of the sentence are to extend or add information to the slots of the sentence but not change it.

1. INTRODUCTION

Teaching grammar is always part of the process of learning a language. The underlying reason for this, as Brock Haussamen (2003) has stated, is the fact that teaching grammar is of great importance. It provides students with needed knowledge for improving their reading and writing.

In general, teaching a language involves providing students with the main grammatical rules of that language, as it helps students understand the main parts of a sentence and how those parts are put together to convey an idea. When students are able to analyze the different structures of a language, they are more likely able to develop their understanding and comprehension of that language (Kim & Sells, 2008).

Of course, not all sentences have the same internal structure. In addition to sentences with simple structures, we can find or even use sentences with different levels of complexity. Although English

sentences can vary in their structures, they all have two main parts in common: the subject and the predicate (Martha & Robert, 2012).

The goal of this paper is to investigate the effect of the complexity level on students' recognition of the subject slot. The study focuses on this topic because understanding the structure of a main part of a sentence is a core element in communication, whether in delivering or receiving messages.

2. LITERATURE REVIEW

2.1 Syntax and Language Comprehension

"Syntax has to do with how words are put together to build phrases, with how phrases are put together to build clauses or bigger phrases, and with how clauses are put together to build sentences" (Miller, 2002).

A language consists of words, but it is not enough to understand the words. It is important to learn how to use those words in a way that communicates meanings

and ideas effectively. In addition, the knowledge of the structure of a language helps the learner receive the messages of others in the way that they intend them to be received (Danvas, 2017). Yule (2006) also emphasizes the point that the use of syntax should be taken into consideration when learning a language. Gottardo, A. and others (2018) have carried out a recent study in which syntactic knowledge has contributed to reading comprehension.

Syntactic complexity has been found to have a variety of effects on the performance of languages learners. Jill, G. and Jennie, E. (2002) have conducted a study to investigate language comprehension and to measure the development of understanding false beliefs in a course over a period of one year. The subjects were students aged 3 to 5 years, and the results emphasized the fact that “the mastery of a specific aspect of syntax, namely, tensed complements, is a precursor and possible prerequisite of successful false-belief performance” (Jill and Jennie, 2002). Stephanie Durrleman, Theodoros Marinis and Julie Franck (2016) found that syntactic complexity affects typically developing (TD) French children across three age groups. Veliz de Vos, Monica, Riffo, Bernardo, Luis Salas-Herrera, Jose and Roa-Ureta, Ruben (2018) have also found that syntactical complexity, besides other variables, significantly affects the performance of subjects.

2.2 Sentence Syntactic Structure and Comprehension

A sentence is the main and basic structural unit of a language (Gompel, 2013). Learning a language therefore requires mastering the structure of sentences in that language. The structure of sentences has been the main interest of many research studies on language syntax. Among these books is *Understanding Sentence Structure: An Introduction to English Syntax* by Christina Tortora (2018). It is a very recent book that guides learners in a simple and practical way to understand English syntax.

Studying language syntax in general, and sentence syntax in particular, has been a main part of the process of learning a language. The ability to analyze sentences leads to a better understanding of language and improves language accuracy, comprehension and paraphrasing (Blake, 2007). The evaluation and understanding of a sentence depend on the relationship between the subject and the verb with its complements

(Davison, 1950), and Davison considers students' understanding of the order in which words are placed in a sentence to express a specific meaning a source of power (the English Journal: Power from Sentence Patterns, p. 382).

Friederici (2002) states that analyses of brain activation within sentence processing network indicate that the “building of syntactic structure precedes semantic processes and that these interact only during a later stage” (Friederici, 2002)

This study considers the importance of understanding the structure of a sentence in learning a language. It places an emphasis on one of the main parts of any English sentence, that is, the subject. It studies the effect of the structure of the subject slot on students' recognition of that slot. It examines whether a change in the complexity level of the subject slot leads to a misunderstanding of that slot.

3. HYPOTHESES OF THE STUDY

The hypotheses of the study are:

1. There is a relationship between the structure of a sentence and the recognition of its slots.
2. It is easier for students to recognize the subject slots of sentences whose subjects are simple-structured.
3. Recognition of the subject slot is more difficult for sentences with complex and compound structure subjects.
4. Students find it most difficult to recognize subject slots in sentences with compound-complex subject slots.

4. METHODOLOGY

This study is based on the assumption that the structure of the subject slot in an English sentence affects students' recognition of that slot, whether during analysis or comprehension of that sentence.

To achieve the goals of the study, students are given a written test that includes sentences whose subject slots have different levels of complexity: simple, complex, compound, and compound-complex. They are asked to identify the subject slot of each sentence. Before taking the test, the students learn about the two main parts (slots) of any English sentence, the subject and the predicate.

The written tests include the following sentences:

Sentences with simple subject

- The dog chased the cat.
- Some dogs chased the young cats.
- That firefighter is Yusef.

Sentences with compound subjects

- Neither Alice nor Peter wants to come to the party.
- Either Tim or Peter will take care of the problem.
- Neither the pillows nor the curtains match the couch.

Sentences with complex subjects

- The best defense against the atom bomb is not to be there when it goes off.
- The man with a mustache who had followed us inside walked over to the telephone.
- The giant, yellow bee flying over the flowers has big eyes.

Sentences with compound-complex subjects

- That new boy from Paris and the tall girl with the long hair put a lot of garlic in their food.
- Neither the boots by the door nor the flip-flops in the living room will be here anymore if you don't put them away.
- Everything on the bed and everything in the closet was organized in under an hour.

4.1 Study Design

- The participants are learners of English as a foreign language (EFL).
- This study shows the effect of the internal subject slot structure on the ability of a group of participants to recognize the subject slot of sentences.
- Four subject slot structures have been presented in the written test: simple, complex, compound-simple and compound-complex.
- The sentences used in this study have been taken from the following webpages:

<http://www.grammar->

[monster.com/glossary/subject.htm](http://www.grammar-monster.com/glossary/subject.htm)

<https://www.thoughtco.com/both-and-neither-nor-either-or-1210736>

https://english.ucalgary.ca/grammar/course/sentence/2_1b.htm

<http://www.k5learning.com/blog/complex-subjects-and-verb-agreement>

<http://englishsentences.com/simple-subject/>

<http://www.grammarling.com/the-gerund-as-subject>

<http://examples.yourdictionary.com/compound-subject-examples.html>

- When correcting the papers, the participant is expected to identify the complete subject slot. If the answer misses one word in the subject slot, the answer is considered wrong. In other words, if a participant identifies the whole subject slot with all of its expanding or modifying words, she receives full marks. Otherwise, her answer is wrong. This has been communicated to all the participants.

4.2 Subjects

In total, 107 students have participated in this study. They are all learners of English as a foreign language (EFL). They are students at College of Languages, Princess Nourah University (PNU) in Saudi Arabia. Their age ranges between 18 to 22 years.

5. DATA COLLECTION

The subjects are distributed into three groups: two are in the Applied Linguistics Department at level three (3X2 & 3X4), and one in the English Translation Department at level three (3E1). At the first three levels, the students enrolled in both departments take common language courses. They have completed a course on grammar entitled "Grammar" with "Azar, B. S. (2009) *Understanding and Using English Grammar*" as the textbook and during this study, they are studying another advanced grammar course entitled "Grammar in Use."

All the subjects have practiced analyzing sentences to identify their slots to finally decide on the pattern of each sentence. The first step in this process involves that they should recognize the subject slot and then move on to the predicate slot with its complements. The inability to recognize a slot would most likely result in a deficiency in understanding the internal structure of the sentence and consequently a difficulty in comprehending that sentence.

The students are given a written test in which they are asked to identify the subject slot of given sentences. The sentences have subjects with different internal structures to show the different levels of complexity. The sentences given to each group of students are different but have the same purpose. The subject slots in all the sentences are in a noun phrase form. The complexity of the slot structure occurs when

expanding its headword (the main noun in the noun phrase) by modifiers. Those modifiers (Martha and Robert, 2012: 129-149) can be added before or after that headword (prenoun and postnoun modifiers). The degree of complexity in this study is measured as follows:

Simple Subject: the head of the noun phrase in the subject slot has no postnoun modifiers. It can have prenoun modifiers, determiners, adjectives or nouns.

Complex Subject: the head of the noun phrase in the subject slot has postnoun modifiers, prepositional phrases, participial phrases or relative clauses.

Compound Subject: the subject slot has two or more compound noun phrases.

Compound-Complex Subject: the subject slot contains two compound-complex noun phrases.

5.1 Method of Scoring

Each group of students in the three test sessions is given four sentences. The students are asked to draw a circle around the subject slot. Achieving a full score on each sentence depends on the students' identifying all the words included in the subject slot.

After correcting the papers, the subjects' performance was recorded as follows:

Structure of Subject	3X4 (39)	3E1 (36)	3X2 (32)	Total (107)
Simple Subject	34	23	19	76
Compound Subject	21	23	13	57
Complex Subject	12	6	2	20
Compound-Complex Subject	14	17	16	47

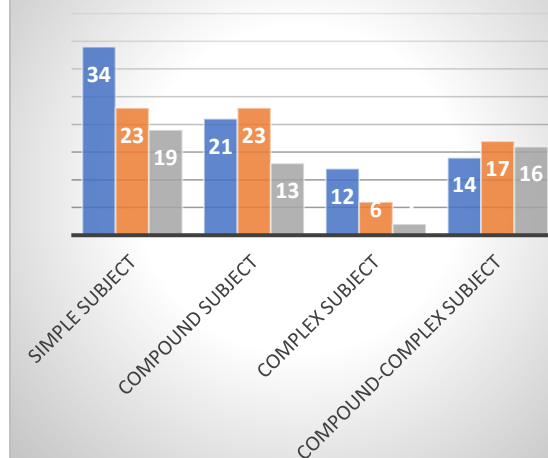
(Table 1-1: Summary of students' performance on the test)

The table shows the number of the students who could identify the correct and complete subject slot under each type of the four different structures of that slot.

6. DATA ANALYSIS

The following figure shows the general performance of the students on the written test.

Figure 1.1: students' performance on the four types of subject slots



The above figure shows the following:

1. The students' highest performance is on the first type of subject slot (simple). 71% of the students get this type correct.
2. The students' lowest performance is on the sentences with complex subjects. Only 18.7% of the students get this type correct.
3. The students' performance on the compound subjects, whether simple or complex, is higher than their performance on the complex subjects. In total, 53.3% get the compound simple subject correct, and 44% get the compound complex subject correct.

7. RESULTS AND DISCUSSION

Based on the analysis of the students' performance in identifying the subject slot of given sentences, the hypotheses of the study are to be tested in the following way:

1. There is a relationship between the structure of a sentence and the recognition of its slots.

The students' performance on the given test supports this hypothesis. The students' recognition of the subject slot is affected by the structure of that slot. The percentage differs from one structure to another.

2. It is easy for students to recognize the subject slots of sentences whose subjects have simple-structure.

The study also supports this hypothesis. More than 70% of the participants could recognize the subject slot with simple structure.

3. Recognition of the subject slot is more difficult for sentences with complex and compound structure subjects.

The study supports this hypothesis. The recognition of the subject slot with complex and compound structures, however, does not reflect the same result. The students find it easier to recognize the compound subject than the complex subject slot. The subject with complex structure is found to be the most difficult one for students to recognize. Only 18.7% of the students could recognize that slot.

4. Students find it most difficult to recognize subject slots in sentences with compound-complex subject slots.

Based on the performance of the students who participated in this study, this hypothesis is found not to be true. The most difficult structure of the subject slot for students to recognize is the complex one.

The previous discussion of the hypotheses of the study leads us to put the four subject structures discussed in this study in the following order according to the students' ability to recognize them:

Simple

Compound-simple

Compound-complex

Complex

8. CONCLUSION

This study aims to investigate the effect of the degree of structure complexity on students' recognition of a sentence subject slot. The subject slot has been chosen because it has been noticed that some students cannot understand a sentence since they do not have the ability to recognize its two main parts: the subject and the predicate.

Sentences vary in their internal syntactic structure. Not all sentences have simple structure. This has led the researcher to study the effect of structure on students' recognition of the first main part of any sentence. The study has proved this effect with different percentages. Based on the analysis of the collected data, it has been found that:

1. The structure of the subject slot has an effect on students' recognition of that slot.
2. This effect varies among the different structures.

3. The simple-structured subject is found to be the easiest structure for students to recognize.
4. Students find it easier to recognize compound-structure subjects, whether simple or complex, compared to complex-structure subjects.
5. Students find it more difficult to recognize the complex-structure subject than the compound-complex subject.

Despite the limitations of the current study, it can hopefully play a role in improving the process of language learning. To master a language, one should master the main component of any language, which is a sentence (Gompel, 2013). Knowing that the structure of a sentence can influence students' understanding of that sentence might make language teachers pay extra attention to this factor.

From the research's point of view, it is not enough to let students know that sentences are different. They should know what kind of differences could be found in each slot. The sentence slots can be expanded in different ways that might make sentences very long, but in the end, all sentences have two main parts: the subject and the predicate (Martha and Robert, 2012). Each part can be modified and expanded with specific words, phrases or clauses to add more details to that slot, but this does not change the main structure of the sentence.

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